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INDEX TO WIRELESS ENGINEER
ABSTRACTS AND REFERENCES

VOL. 30. 1953

This index to the Abstracts and References, published monthly in "Wireless Engineer" during 1953, is compiled on the same plan as for 1952, there being both Author and Subject Indexes. A list of the principal journals scanned for abstracting is included with the publishers' addresses.

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SYMBOLS (A) Abstract, (B) Book Review, (C) Note of Correction, (D) Discussion

AUTHOR INDEX A name followed by "and" is that of the first author of a jointly written paper, while the word "with" indicates that the name indexed is that of the second author.

Abbreviations used in the Abstracts and Index

a.c.	= alternating current	c.w.	= continuous wave
d.c.	= direct current	i.c.w., m.c.w.	= modulated c.w.
h.v.	= high voltage	s.w.*	= short wave
l.v.	= low voltage	u.s.w.*	= ultra short wave
a.f.	= audio frequency	λ	= wavelength
i.f.	= intermediate frequency	c.r.	= cathode ray
r.f.	= radio frequency, including:—	c.r.o.	= cathode ray oscilloscope
l.f.	= low frequency, <300 kc/s	d.f.	= direction finding
m.f.	= medium frequency, 300–3000 kc/s	e.m.	= electromagnetic, *but*
h.f.	= high frequency, 3–30 Mc/s	e.m.f.	= electromotive force
v.h.f.	= very high frequency, 30–300 Mc/s	a.f.c.	= automatic frequency control
u.h.f.	= ultra high frequency, >300 Mc/s	a.g.c.	= automatic gain control
a.m.	= amplitude modulation	a.ph.c.	= automatic phase control
f.m.	= frequency modulation	a.v.c.	= automatic volume control
p.m.	= pulse modulation, including:—	m.u.f.	= maximum usable frequency
p.a.m.	= pulse amplitude modulation	p.p.i.	= plan position indicator
p.c.m.	= pulse code modulation	s.s.b.	= single sideband
p.f.m.	= pulse frequency modulation	d.s.b.	= double sideband
p.ph.m.	= pulse phase modulation	s.w.r.	= standing wave ratio
	or	v.f.o.	= variable frequency oscillator
p.p.m.	= pulse position modulation	R/T	= radiotelephony
p.w.m.	= pulse width modulation	W/T	= wireless telegraphy
ph.m.	= phase modulation	TV	= television
v.m.	= velocity modulation		

*No clearly defined limits

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ERRATA

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,,	,,	121 In line 4, for 'larger' read 'large'.
,,	,,	384 For '537.533.8' read '537.534.8'.
,,	,,	454 For '621.385.5' read '621.383.5'.
,,	,,	763 In line 9, for '$(f/t'$ read '$f(t)$'.
,,	,,	1377 For 'S. T. Kalashnikov' read 'S. G. Kalashnikov'.
,,	,,	1547 For '621.38(061.4)' read '621.38 : 061.4'.
,,	,,	2328 For 'R. Freymann' read 'R. Freymann, R. Rohmer & B. Hagene'.
,,	,,	2576 In line 9, for 'required' read 'described'.
,,	,,	2894 For 'S. K. Dike' read 'S. H. Dike'.
,,	,,	3015 For '537.311.35' read '537.311.33'.
,,	,,	3095 For '3905' read '3095'.
,,	,,	3408 For '621.018.78' read '621.3.018.78'.

U.D.C. Changes

Cyclotron 621.384.611
Getters 621.3.032.461
Pulse 621.3.018.75

LIST OF JOURNALS

A selection of the journals which are regularly scanned is given below, together with the addresses of their publishers or editorial offices and the abbreviations of their titles as used in the Abstracts and References. Applications for copies of any journal should be made to the addresses given.

The full title of each journal is given in bold type and is followed by the address, the abbreviated title being shown within brackets. In a few cases the nature of a journal is indicated, where neither the title nor the address shows it clearly.

Acta physica austriaca, Springer Verlag, Wien I, Mölkerbastei 5, Austria. (*Acta phys. austriaca*)

Acta Polytechnica, Royal Swedish Academy of Engineering Sciences, Stockholm, Sweden. (*Acta polyt., Stockholm*)

Acustica, S. Hirzel Verlag, Gotthardstrasse 6, Zürich, Switzerland. (*Acustica*)

Advances in Physics, Taylor & Francis Ltd, Red Lion Court, Fleet Street, London, E.C.4, England. (*Advances Phys.*)

Akustische Beihefte, S. Hirzel Verlag, Gotthardstrasse 6, Zürich, Switzerland. (*Akust. Beihefte*)

Alta Frequenza, Associazione Elettrotecnica Italiana, Milano (202), Via S. Paolo 10, Italy. (*Alta Frequenza*)

Annalen der Physik, J. A. Barth, Leipzig C1, Salomonstrasse 18B, Germany. (*Ann. Phys. Lpz.*)

Annales de Géophysique, Service des Publications du C.N.R.S., 45 rue d'Ulm, Paris 5e, France. (*Ann. Geophys.*)

Annales de Physique, Masson & Cie, 120 Boulevard Saint-Germain, Paris 6e, France. (*Ann. Phys., Paris*)

Annales de Radioélectricité, 10 rue Carducci, Paris 19e, France. (*Ann. Radioelect.*)

Annales des Télécommunications, 3 & 5 Boulevard Pasteur, Paris 15e, France. (*Ann. Télécommun.*)

Annali di Geofisica, Istituto Nazionale di Geofisica, Città universitaria, Roma, Italy. (*Ann. Geofis.*)

Applied Scientific Research, Martinus Nijhoff, Lange Voorhout 9, The Hague, Netherlands. (*Appl. sci. Res.*)

Archiv der elektrischen Übertragung, S. Hirzel Verlag, Stuttgart, Germany. (*Arch. elekt. Übertragung*)

Archiv für Elektrotechnik, Springer Verlag, Heidelberg, Neuenheimer Landstrasse 24, Germany. (*Arch. Elektrotech.*)

Archiv für Meteorologie Geophysik und Bioklimatologie, Series A, Springer Verlag, Wien I, Mölkerbastei 5, Austria. (*Arch. Met., Wien*)

Archiv für technisches Messen, R. Oldenbourg Verlag, München, Lotzbeckstrasse 2b, Germany. (*Arch. tech. Messen*)

Arkiv för Fysik, published for Royal Swedish Academy of Sciences by Almqvist & Wiksells Boktryckeri A.B., Stockholm, Sweden. (*Ark. Fys.*)

A.T.E. Journal (incorporating Strowger Journal), Automatic Telephone & Electric Co., Strowger Works, Liverpool 7, England. (*A.T.E. J.*)

Audio Engineering, Radio Magazines Inc., 10 McGovern Avenue, Lancaster, Pa., U.S.A. (*Audio Engng, N.Y.*)

Australian Journal of Applied Science, Commonwealth Scientific and Industrial Research Organization, 314 Albert Street, East Melbourne C2, Australia. (*Aust. J. appl. Sci.*)

Australian Journal of Physics (formerly **Australian Journal of Scientific Research Series A**), Commonwealth Scientific and Industrial Research Organization, 314 Albert Street, East Melbourne C2, Australia. (*Aust. J. Phys.*)

A.W.A. Technical Review, Amalgamated Wireless (Australasia) Ltd, Sydney, Australia. (*A.W.A. tech. Rev.*)

B.B.C. Quarterly, British Broadcasting Corporation, 35 Marylebone High Street, London, W.1. England. (*B.B.C. Quart.*)

Beama Journal, British Electrical and Allied Manufacturers' Association, 36 Kingsway, London, W.C.2, England. (*Beama J.*)

Bell Laboratories Record, 463 West Street, New York 14, N.Y., U.S.A. (*Bell Lab. Rec.*)
Bell System Technical Journal, American Telephone and Telegraph Company, 195 Broadway, New York 7, N.Y., U.S.A. (*Bell Syst. tech. J.*)
British Journal of Applied Physics, 47 Belgrave Square, London, S.W.1, England. (*Brit. J. appl. Phys.*)
Brown Boveri Review, Baden, Switzerland. (*Brown Boveri Rev.*)
Bulletin de l'Académie des Sciences de l'U.R.S.S., (*a*) série physique, (*b*) série géophysique, (*c*) classe sciences techniques, Academy of Sciences, Moscow, U.S.S.R. (In Russian.) (*Bull. Acad. Sci., U.R.S.S.*, (*a*) *sér. phys.*, (*b*) *sér. géophys.* (*c*) *tech. Sci.*)
Bulletin de l'Association suisse des Électriciens, S.A. Fachschriften-Verlag and Buchdruckerei, Stauffacherquai 36–40, Zürich 4, Switzerland. (*Bull. schweiz. elektrotech. Ver.*)
Bulletin de la Société française des Électriciens, 55 Quai des Grands-Augustins, Paris 6e, France. (*Bull. Soc. franç. Élect.*)

Câbles et Transmission, Sotelec, 16 rue de la Baume, Paris 8e, France. (*Câbles & Transm.*)
Canadian Journal of Physics, National Research Council, Ottawa, Canada. (*Canad. J. Phys.*)
Chalmers tekniska Högskolas Handlingar, N. J. Gumperts Förlag, Göteborg, Sweden. (*Chalmers tek. Högsk. Handl.*)
Communication Engineering, The Publishing House, Great Barrington, Mass., U.S.A. (*Commun. Engng*)
Communication News, Philips Telecommunications Industries, Hilversum, Netherlands. (*Commun. News*)
Communications on Pure and Applied Mathematics, Interscience Publishers Inc., 250 Fifth Avenue, New York 1, N.Y., U.S.A. (*Commun. pure appl. Math.*)
Comptes Rendus Hebdomadaires des Séances de l'Académie des Sciences, Gauthier-Villars, 55 Quai des Grands-Augustins, Paris 6e, France. (*C.R. Acad. Sci., Paris*)
Comptes Rendus (Doklady) de l'Académie des Sciences de l'U.R.S.S., Academy of Sciences, Moscow, U.S.S.R. (In Russian.) (*C.R. Acad. Sci. U.R.S.S.*)

Electrical Communication, International Telephone and Telegraph Corporation, 67 Broad Street, New York 4, N.Y., U.S.A. (*Elect. Commun.*)
Electrical Engineering, Journal of the American Institute of Electrical Engineers, 500 Fifth Avenue, New York 36, N.Y., U.S.A. (*Elect. Engng, N.Y.*)
Electrical Journal (formerly **Electrician**), Bouverie House, 154 Fleet Street, London, E.C.4, England. (*Elect. J.*)
Electrical Manufacturing, 1250 Sixth Avenue, New York 20, N.Y., U.S.A. (*Elect. Mfg*)
Electrical Times, Sardinia House, Sardinia Street, London, W.C.2, England. (*Elect. Times*)
Electronic Application Bulletin, N.V. Philips Gloeilampenfabrieken, Eindhoven, Netherlands. (*Electronic Applic. Bull.*)
Electronic Engineering, 28 Essex Street, London, W.C.2, England. (*Electronic Engng*)
Electronics, 99–129 North Broadway, Albany 1, N.Y., U.S.A. (*Electronics*)
Elektrotechnik und Maschinenbau, Journal of the Elektrotechnischer Verein Österreichs, Springer Verlag, Wien I, Mölkerbastei 5, Austria. (*Elektrotech. u. Maschinenb.*)
Elektrotechnische Zeitschrift, Edition A & B, VDE-Verlag G.m.b.H., Frankfurt/Main, Osthafenplatz 6, Germany. (*Elektrotech. Z.*)
Endeavour, Imperial Chemical Industries, Millbank, London, S.W.1, England. (*Endeavour*)
Engineer, 28 Essex Street, London, W.C.2, England. (*Engineer, Lond.*)
Engineering, 35 & 36 Bedford Street, London, W.C.2, England. (*Engineering, Lond.*)
Ericsson Review, Stockholm 32, Sweden. (*Ericsson Rev.*)

Fernmeldetechnische Zeitschrift, Vieweg & Sohn, Braunschweig, Burgplatz 1, Germany. (*Fernmeldetech. Z.*)
Frequenz, Schiele & Schön, Berlin, S.W.29, Boppstrasse 10, Germany. (*Frequenz*)
Funk und Ton, Verlag für Radio-Foto-Kinotechnik G.m.b.H., Berlin-Borsigwalde, Eichborndamm 141–167, Germany. (*Funk u. Ton*)

G.E.C. Journal, General Electric Company, Magnet House, Kingsway, London, W.C.2, England. (*G.E.C. J.*)
G.E.C. Telecommunications, General Electric Company Ltd, Coventry, England. (*G.E.C. Telecommun.*)
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Helvetica Physica Acta, Journal of the Société suisse de Physique, Éditions Birkhäuser, Bâle, Switzerland. (*Helv. phys. Acta*)
HF, 55 rue Defacqz, Brussels, Belgium. (*HF, Brussels*)

Indian Journal of Physics (and Proceedings of the Indian Association for the Cultivation of Science), 210 Bowbazer Street, Calcutta, India. (*Indian J. Phys.*)

Journal of the Acoustical Society of America, American Institute of Physics, 57 East 55th Street, New York 22, N.Y., U.S.A. (*J. acoust. Soc. Amer.*)
Journal of Applied Physics, American Institute of Physics, 57 East 55th Street, New York 22, N.Y., U.S.A. (*J. appl. Phys.*)
Journal of Atmospheric and Terrestrial Physics, Pergamon Press Ltd, 242 Marylebone Road, London, N.W.1, England. (*J. atmos. terr. Phys.*)
Journal of the Audio Engineering Society, P.O. Box 12, Old Chelsea Station, New York 11, N.Y., U.S.A. (*J. audio Engng Soc.*)
Journal of the British Institution of Radio Engineers, 9 Bedford Square, London, W.C.1, England. (*J. Brit. Instn Radio Engrs*)
Journal of the Franklin Institute, Prince and Lemon Streets, Lancaster, Pa, U.S.A. (*J. Franklin Inst.*)
Journal of Geophysical Research, 5241 Broad Branch Road, N.W., Washington 15, D.C., U.S.A. (*J. geophys. Res.*)
Journal of the Indian Institute of Science, Indian Institute of Science, Bangalore 3, India. (*J. Indian Inst. Sci.*)
Journal of the Institute of Navigation, John Murray Ltd, 50 Albemarle Street, London, W.1, England. (*J. Inst. Nav.*)
Journal of the Institution of Engineers, Australia, Science House, Gloucester & Essex Streets, Sydney, Australia. (*J. Instn Engrs, Aust.*)
Journal of Mathematics and Physics, Massachusetts Institute of Technology, Cambridge 39, Mass., U.S.A. (*J. Math. Phys.*)
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Journal of the Physical Society of Japan, Maruzen Publishing Co., P.O. Box 605 Central, Tokyo, Japan. (*J. phys. Soc. Japan*)
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Journal of Research of the National Bureau of Standards, U.S. Government Printing Office, Washington, D.C., U.S.A. (*J. Res. nat. Bur. Stand.*)
Journal of Scientific Instruments, 47 Belgrave Square, London, S.W.1, England. (*J. sci. Instrum.*)
Journal of the Society of Motion Picture and Television Engineers, 40 West 40th Street, New York 18, N.Y., U.S.A. (*J. Soc. Mot. Pict. Televis. Engrs*)
Journal of the Television Society, 164 Shaftesbury Avenue, London, W.C.2, England. (*J. Televis. Soc.*)

Marconi Review, Marconi House, Chelmsford, England. (*Marconi Rev.*)
Materials and Methods, Reinhold Publishing Corporation, 330 West 42nd Street, New York 36, N.Y., U.S.A. (*Mater. & Meth.*)
Metal Industry, Louis Cassier Company Ltd, Dorset House, Stamford Street, London, S.E.1, England. (*Metal Ind., Lond.*)
Metal Treatment, 49 Wellington Street, London, W.C.2, England. (*Metal Treatm.*)
Metallurgia, 31 King Street West, Manchester 3, England. (*Metallurgia, Manchr*)
Meteorological Magazine, His Majesty's Stationery Office, York House, Kingsway, London, W.C.2, England. (*Met. Mag., Lond.*)
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Nuovo Cimento, Editore Nicola Zanichelli, Bologna, Via Irnerio 34, Italy. (*Nuovo Cim.*)

Observatory, Royal Observatory, Herstmonceux Castle, Hailsham, Sussex, England. (*Observatory*)
Onde électrique, 40 rue de Seine, Paris 6e, France. (*Onde élect.*)
Optik, Wissenschaftliche Verlagsgesellschaft, Stuttgart 1, Postfach 40, Germany. (*Optik, Stuttgart*)
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Post Office Electrical Engineers' Journal, Engineer-in-Chief's Office, Alder House, Aldersgate Street, London, E.C.1, England. (*P.O. elect. Engrs' J.*)
Poste e Telecomunicazioni, Ministero P.T., Viale Trastevere 189, Roma, Italy. (*Poste e Telecomunicazioni*)

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Proceedings of the Institution of Radio Engineers, Australia, Science House, Gloucester Street, Sydney, N.S.W., Australia. (*Proc. Instn Radio Engrs Aust.*)

Proceedings of the National Electronics Conference, 852 East 83rd Street, Chicago 19, Illinois, U.S.A. (*Proc. nat. Electronics Conf., Chicago*)

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QST, American Radio Relay League Inc., 38 La Salle Road, West Hartford, 7, Conn., U.S.A. (*QST*)

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Revista de Telecomunicación, Palacio de Comunicaciones, Madrid, Spain. (*Rev. Telecomunicación, Madrid*)

Revista Telegrafica Electronica, Arbó Editores, Buenos Aires, Argentina. (*Rev. telegr. Electronica, Buenos Aires*)

Revue générale de l'Electricité, 12 place Henri Bergson, Paris 8e, France. (*Rev. gén. Élect.*)

Revue d'Optique, 3 & 5 Boulevard Pasteur, Paris 15e, France. (*Rev. d'Optique*)

Revue scientifique, 4 rue Pomereu, Paris 16e, France. (*Rev. sci., Paris*)

Revue technique Compagnie française Thomson-Houston, 173 Boulevard Haussmann, Paris, France. (*Rev. tech. Comp. franç. Thomson-Houston*)

Ricerca scientifica, Roma, Piazza della Libertà 10, Italy. (*Ricerca sci.*)

R.S.G.B. Bulletin, New Ruskin House, Little Russell Street, London, W.C.1, England. (*R.S.G.B. Bull.*)

Schweizer Archiv für angewandte Wissenschaft und Technik, Buchdruckerei Vogt-Schild, Solothurn, Switzerland. (*Schweiz. Arch. angew. Wiss. Tech.*)

Science Reports of the Research Institutes Tohoku University, Series B, Tohoku University, Sendai, Japan. (*Sci. Rep. Res. Inst. Tohoku Univ., Ser. B*)

Scientific Monthly, 10 McGovern Avenue, Lancaster, Pa, U.S.A. (*Sci. Mon.*)

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Technical News Bulletin of the National Bureau of Standards, U.S. Government Printing Office, Washington 25, D.C., U.S.A. (*Tech. News Bull. nat. Bur. Stand.*)

Technische Hausmitteilungen des Nordwestdeutschen Rundfunks, Nordwestdeutscher Rundfunk, Hamburg 13, Rothenbaumchaussee 132, Germany. (*Tech. Hausmitt. Nordw.Dtsch. Rdfunks*)

Technische Mitteilungen, Journal of the Swiss Post Office, Direction générale PTT, Berne, Speichergasse 6, Switzerland. (*Tech. Mitt. schweiz. Telegr.-TelephVerw.*)

Tele-Tech, 480 Lexington Avenue, New York 17, N.Y., U.S.A. (*Tele-Tech*)

Telefunken Zeitung, Telefunken G.m.b.H., Berlin S.W.61, Mehringdamm 32–34, Germany. (*Telefunken Ztg*)

Télévision, 9 rue Jacob, Paris 6e, France. (*Télévision*)

Tellus, Lindhagensgatan 124, Stockholm, Sweden. (*Tellus*)

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Transactions of the American Geophysical Union, 1530 P Street, N.W., Washington 5, D.C., U.S.A. (*Trans. Amer. geophys. Union*)

Transactions of the American Institute of Electrical Engineers, 33 West 39th Street, New York 18, N.Y., U.S.A. (*Trans. Amer. Inst. elect. Engrs*)

Transactions of the Institute of Radio Engineers, 1 East 79th Street, New York 21, N.Y., U.S.A. (*Trans. Inst. Radio Engrs*)

TSF et TV, 40 rue de Seine, Paris 6e, France. (*TSF et TV*)

Le Vide, Journal of the Société française des Ingénieurs Techniciens du Vide, 44 rue de Rennes, Paris 6e, France. (*Le Vide*)

Weather, 49 Cromwell Road, London, S.W.7, England. (*Weather*)

Wireless Engineer, Dorset House, Stamford Street, London, S.E.1, England. (*Wireless Engr*)

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Zeitschrift für angewandte Mathematik und Physik, Éditions Birkhäuser, Bâle 10, Switzerland. (*Z. angew. Math. Phys.*)

Zeitschrift für angewandte Physik, Springer Verlag, Heidelberg, Neuenheimer Landstrasse 24, Germany. (*Z. angew. Phys.*)

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Zeitschrift für Naturforschung, Tübingen, Mathildenstrasse 29, Germany. (*Z. Naturf.*)

Zeitschrift für Physik, Springer Verlag, Heidelberg, Neuenheimer Landstrasse 24, Germany. (*Z. Phys.*)

Zhurnal eksperimentalnoi y teoreticheskoi Fiziki, Academy of Sciences, Moscow, U.S.S.R. (*Zh. eksp. teor. Fiz.*)

Zhurnal tekhnicheskoi Fiziki, Academy of Sciences, Moscow, U.S.S.R. (*Zh. tekh. Fiz.*)

Printed in Great Britain for the Publishers, Iliffe & Sons, Ltd., Dorset House, Stamford Street, London, S.E.1, at The Baynard Press by Sanders Phillips & Co., Ltd., Chryssell Road, London, S.W.9